



Name: _____

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Geometry, Period _____

Due Date: Dec 3, 2014

HW66_Multiplying Radicals

**Geometry
Homework**

Form A

Simplify!

$$\begin{aligned} 1) \sqrt{9x^3} &\rightarrow \sqrt{9} \cdot \sqrt{x^3} \\ &\downarrow \quad \downarrow \quad \downarrow \\ &3 \cdot \sqrt{x^2} \cdot \sqrt{x} \\ &\downarrow \quad \downarrow \\ &3 \cdot x \cdot \sqrt{x} \\ &\boxed{3x\sqrt{x}} \end{aligned}$$

2) $\sqrt{8x^4}$

3) $\sqrt{63m^3}$

4) $\sqrt{150m^4n^3} \rightarrow \sqrt{150} \cdot \sqrt{m^4} \cdot \sqrt{n^3}$

5) $\sqrt{75xy}$

6) $3\sqrt{ab^2}$

7) $\sqrt{8xy^2}$

$$\begin{aligned} 8) \sqrt{3} \cdot 3\sqrt{5} &\rightarrow \boxed{\sqrt{3}} \cdot \boxed{3} \cdot \boxed{\sqrt{5}} \\ &\downarrow \\ &3 \cdot \sqrt{3 \cdot 5} \\ &\downarrow \\ &3 \cdot \sqrt{15} \\ &\boxed{3\sqrt{15}} \end{aligned}$$

9) $\sqrt{2x} \cdot \sqrt{4x}$

10) $\sqrt{5tv^2} \cdot \sqrt{5t}$

11) $\sqrt{9x^2y^2} \cdot 3\sqrt{2xy} \rightarrow 3 \cdot \sqrt{2xy} \cdot \sqrt{9x^2y^2}$
 $\rightarrow 3 \cdot \sqrt{2} \cdot \sqrt{x} \cdot \sqrt{y} \cdot \sqrt{9} \cdot \sqrt{x^2} \cdot \sqrt{y^2}$
 $\downarrow \quad \downarrow \quad \downarrow$

12) $\sqrt{9b^3x} \cdot \sqrt{9x}$

13) $\sqrt{2}(9 + 2\sqrt{2}) \rightarrow 9\sqrt{2} + 2\sqrt{2} \cdot \sqrt{2}$

14) What is the value of $4^{-1} \cdot 4^1$?

15) For all real values of x , if $(x^{a+2})^4 = x^{16}$, a must be equivalent to what value?

- a) 14
- b) 10
- c) 3.5
- d) 2

16) For all real values of x , if $\frac{x^{3a+1}}{x^a} = x^9$, a must be equivalent to what value?

- a) 2
- b) 2.67
- c) 3
- d) 4